Amendments to the Claims

1. (*Currently Amended*) ~~A method of manufacturing a semiconductor device, in which on a region of silicon oxide situated next to a region of monocrystalline silicon at a surface of a semiconductor body, a non-monocrystalline auxiliary layer is formed, characterized in that the auxiliary layer is formed in two process steps, in which, in the course of the first process step, a layer of arsenic is formed on the region of monocrystalline silicon by heating the semiconductor body in an atmosphere with an arsenic compound, and, in the course of the second process step, a layer of non-monocrystalline silicon is formed as an auxiliary layer on the region of silicon oxide by heating the semiconductor body in an atmosphere comprising a gaseous silicon compound instead of a gaseous arsenic compound.~~

A method of manufacturing a semiconductor device on a region of silicon oxide situated next to a region of monocrystalline silicon at a surface of a semiconductor body, a non-monocrystalline auxiliary layer is formed in two process steps, the method comprising the steps of:

1) forming a layer of arsenic the region of monocrystalline silicon by heating the semiconductor body in an atmosphere with an arsenic compound; and

2) forming a layer of non-monocrystalline silicon as an auxiliary layer on the region of silicon oxide by heating the semiconductor body in an atmosphere comprising a gaseous silicon compound instead of a gaseous arsenic compound.

2. (*Currently Amended*) A method as claimed in claim 1, ~~characterized in that during the formation~~ wherein during the forming of the auxiliary layer, the semiconductor body is heated during ~~the first process step~~ Step 1) in an atmosphere comprising, in addition to the gaseous arsenic compound, the gaseous silicon compound used during ~~the second process step.~~ Step 2).

3. (*Currently Amended*) ~~A method as claimed in claim 1 or 2, characterized in that the second process step is ended~~ A method a claimed in claim 1, wherein Step 2) is ended

before deposition from the silicon compound takes place on the arsenic layer formed on the region of monocrystalline silicon.

4. (*Currently Amended*) ~~A method as claimed in claim 1, 2 or 3, characterized in that during the formation of the auxiliary layer,~~ A method as claimed in claim 1, wherein during the forming of the auxiliary layer, the semiconductor body is heated ~~during both process steps~~ step 1) and step 2) at a temperature in the range between 400 and 600 °C in an atmosphere with a pressure below 500 mTorr.

5. (*Currently Amended*) ~~A method as claimed in any one of the preceding claims, characterized in that~~ A method as claimed in claim 1, wherein after the formation of the auxiliary layer, a silicon-containing layer is deposited on the arsenic layer and the auxiliary layer by heating the semiconductor body in an atmosphere comprising a silicon compound.

6. (*Currently Amended*) ~~A method as claimed in claim 5, characterized in that~~ A method as claimed in claim 5, wherein as the silicon-containing layer, a layer of $Si_{1-x}Ge_x$ is deposited, where $0.05 < x < 0.20$, to which less than 0.2 at.% carbon is added, by heating the semiconductor body in an atmosphere comprising a silicon compound and a germanium compound.

7. (Currently Amended) ~~A method as claimed in claim 5 or 6, characterized in that in~~ A method as claimed in claim 5, wherein the region of monocrystalline silicon, an n-type collector zone of a bipolar transistor is formed, and in the monocrystalline layer of $Si_{1-x}Ge_x$ deposited thereon, a p-type base zone of this transistor is formed.